

Expanding the Biocultural Synthesis Toward a Biology of Poverty

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The papers collected here were first presented in symposia at the 1994 meetings of the American Association of Physical Anthropologists and the American Anthropological Association.¹ The purpose of these sessions was to explore new biocultural approaches that integrate social and political-economic perspectives into human biology. A particular focus was on the biological consequences of poverty and inequality.

A number of different factors motivated these sessions. One was a desire to bridge the gap between cultural and biological anthropology, which has grown in the context of subdiscipline specialization, and increasingly diversified theoretical perspectives and approaches in anthropology. While the wealth of diverse approaches in anthropology is welcome and enriches the discipline, synthetic approaches are important to mine the complementary knowledge this diversity provides. Second, many biological anthropologists witness firsthand the impoverished material conditions and inequalities which affect people's lives and biology. To ignore these material conditions and their underlying political-economic and social relations is

to ignore major factors that shape biological variation and may have an impact on biocultural adaptation.

Biological anthropology is well positioned to be at the forefront of understanding the biological dimensions of poverty and social change. The papers illustrate this potential in developing biocultural approaches that integrate perspectives from social and political-economic anthropology with those of ecology and adaptation from biological anthropology. This integration assumes that human biology is affected—at least in the short term—by such factors as the control, production, and distribution of material resources, ideology, and power. It challenges us to expand the breadth of our analyses, but it also complements biological anthropology's strengths and expertise.

Biological anthropology has been successful at identifying local conditions impinging on biology and behavior, at describing patterns of adjustments to multiple problems, and in assessing the biobehavioral outcomes of response with some precision. The biocultural synthesis can be furthered by

- expanding our view of environments to examine regional and global forces shaping local environments,
- examining the social relations that structure exposure to stress and adaptive capacity, and

¹A symposium titled "Social and Political-Economic Perspectives in Biological Anthropology" was organized by Thomas Leatherman and Alan Goodman for the Sixty-Third Annual Meeting of the American Association of Physical Anthropologists in Denver, CO, 1994. A symposium titled "The Biology of Poverty" was organized by Brooke Thomas and Darna Dufour for the Ninety-Third Annual Meeting of the American Anthropological Association in Atlanta, GA, 1994. Both sessions were an extension of a dialogue begun at a Wenner-Gren Conference in November 1992, titled "Political Economic Perspectives in Biological Anthropology: Building a Biocultural Synthesis" and organized by Alan Goodman and Thomas Leatherman.

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- paying more attention to the costs of adaptations and ultimately how consequences and responses to stress shape future environments and behaviors.

In biological anthropology, we have a long tradition of identifying immediate causes of biological states such as stunting and wasting in children or diminished adult working capacity. It has become relatively common to associate these biological states with some general measure of socioeconomic variation. However, it is rare that the contexts or roots of the socioeconomic variation are addressed. A more synthetic biocultural approach, as seen in these papers, considers the factors that are responsible for why one individual or family is richer or poorer, better nourished or healthier, or exposed to pollutants or not. This entails greater attention to the social relations that structure access to material resources. Most importantly, it means recognizing how environments are products of human actions—actions shaped by different interests and resources. Undernutrition and disease are products of these social relations and not natural and inevitable stressors to which everyone must adapt.

In summary, a more synthetic biocultural perspective is needed to better communicate across sociocultural and biological subdisciplines in anthropology, to position anthropology as an important voice in science as we look toward the twenty-first century, and ultimately to better understand the challenges to human biology in the next century. It is often said that the anthropology of the twenty-first century must be an anthropology of practice; anthropologists must be attentive to how their knowledge and research can be used to alleviate stresses, such as poverty, and promote well-being. Armed with a biocultural approach that is sensitive to the social origins of biological stress, biological anthropologists can be at the forefront of this effort.

The following papers examine a diversity of problems, environmental contexts, and biosocial parameters. They are united in their efforts to integrate social and economic

perspectives into careful studies of human biology and thus provide a more nuanced interpretation of the interaction between biology and a range of social and economic factors.

Dufour and colleagues analyze diet and nutrition among impoverished women in Cali, Columbia. Though impoverished, these women are not particularly malnourished. This may be due in part to a series of coping strategies the women identify, including reducing portion sizes and the number of meals eaten, relying on social networks and social assistance, and buying on credit. Yet these responses may carry separate costs (e.g., experiencing hunger, loss of household autonomy) which can lead to future changes in household functioning. Bogin and Loucky use growth data in Mayan communities in the United States as sensitive indicators of the social, economic, and political environment. They use a common approach of studying migrants to assess environmental influences on growth but put this comparison in a broader historical context of the Guatemalan civil war. The economically successful migrant families in the US have taller children. They conclude that the biosocial well-being of these Mayan children is the result of their families' ability to respond to threats and opportunities of the economic and political environment.

Flinn and England examine social and economic aspects of stress and health in a rural village in Dominica. They show that links between social conditions and stress are not fully explained by measures of socioeconomic status. Family dynamics, which in turn are shaped by the articulation of the household into the broader economy, are an important mediator. Dressler and Bindon discuss social and economic effects on stress and cardiovascular disease in a variety of settings through a model of lifestyle incongruity. In particular, they use data from American Samoa to show how lifestyle incongruity affects blood pressure. Their analysis is an empirically successful attempt to link global political-economic processes, local social structure, and biological outcomes. It well illustrates the potential for biological anthropologists using more synthetic

biocultural models to contribute to our understanding of the biological impact of social change.

Schell provides a series of models to illustrate the cultural and social dynamics of exposure to toxins such as lead. He notes that the social and cultural contexts in which all people live are sources of stress as well as resources. We do not equally participate in society and culture, nor do we equally share its resources and stressors. Technological innovations to some are toxic exposures

to others. Moreover, the biological consequences of lead and other toxins serve to perpetuate the social contexts in which unequal exposure occurs.

Together these papers provide a start for focusing our efforts at better understanding how social and economic processes affect human biology. We hope that their examples of more synthetic biocultural perspectives encourage biological anthropologists to turn their attention to ways we can better link human biology to social conditions.